NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Proposed Approval of a Part 70 Permit

for **Grissom Air Reserve Base**
in **Miami County**

Part 70 No.: T 103-7426-00008

Notice is hereby given that the above-mentioned company, located at 434 ARW/CC, Building 667, Grissom Air Reserve Base, Indiana 46971-5000, has made application to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Part 70 Permit for the military base.

A Part 70 permit consolidates all of a source's applicable air pollution control requirements into one permit. This proposed Part 70 permit includes provisions that ensure that compliance with these requirements can be determined.

This proposed Part 70 permit does not contain any new proposed emission units.

This proposed Part 70 permit contains provisions intended to satisfy the requirements of the construction permit rules for certain existing unpermitted emission units.

Notice is hereby given that there will be a period of thirty (30) days from the date of publication of this notice during which any interested person may comment on why this proposed permit should or should not be issued. Appropriate comments should be related to any air quality issues, interpretation of the state and federal rules, calculations made, technical issues, or the effect that the operation of this source would have on any aggrieved individuals.

A copy of the application and proposed permit is available for examination at the Peru Public Library, 102 East Main Street, Peru, Indiana 46970-2300. All statements, along with supporting documentation, should be submitted in writing to the IDEM, OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015. If adverse comments concerning the **air pollution impact** of this proposed source are received, together with a request for a public hearing, such a hearing may be held to give further consideration to this application.

Persons not wishing to comment at this time, but wishing to receive notice of future proceedings conducted related to this action, must submit a written request to the OAM, at the above address. All interested parties of record will receive a notice of the decision on this matter and will then have fifteen (15) days after receipt of the Notice of Decision to file a petition for administrative review. Procedures for filing such a petition will be enclosed with the Notice.

Questions should be directed to CarrieAnn Ortolani, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 516-691-3395 or in Indiana at 1-800-451-6027 (ext 516-691-3395).

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

CAO/MES

PART 70 OPERATING PERMIT
OFFICE OF AIR MANAGEMENT

Grissom Air Reserve Base
434 ARW/CC, Building 667
Grissom Air Reserve Base, Indiana 46971-5000

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 103-7426-00008	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date:

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary military base.

Responsible Official:	Colonel Christopher M. Joniec
Source Address:	434 ARW/CC, Building 667, Grissom Air Reserve Base , Indiana 46971-5000
Mailing Address:	434 ARW/CC, Building 667, Grissom Air Reserve Base , Indiana 46971-5000
Phone Number:	(765) 688-4770
SIC Code:	9711
County Location:	Miami
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Minor Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) boiler, identified as BOI1, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 1, capacity: 48.0 million British thermal units per hour.

(b) One (1) boiler, identified as BOI2, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 2, capacity: 48.0 million British thermal units per hour.

(c) One (1) boiler, identified as BOI3, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 3, capacity: 50.7 million British thermal units per hour when operating on natural gas and 49.5 million British thermal units per hour when operating on no. 2 fuel oil.

(d) One (1) boiler, identified as BOI4, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 3, capacity: 50.7 million British thermal units per hour when operating on natural gas and 49.5 million British thermal units per hour when operating on no. 2 fuel oil.

(e) One (1) boiler, identified as BOI5, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 4, capacity: 83.5 million British thermal units per hour when operating on natural gas and 81.5 million British thermal units per hour when operating on no. 2 fuel oil.

(f) One (1) spray paint booth, located in building 453, constructed in 1989, equipped with eight (8) high volume low pressure (HVLP) spray guns and one (1) electrostatic HVLP spray gun, capacity: 1 aircraft panel per hour.

(g) One (1) grit blast room, located in building 426, constructed in 1989, equipped with a baghouse, capacity: 767 pounds of grit per hour.

(h) One (1) bulk POL system, constructed in 1990, consisting of the following:

(1) Six (6) horizontal underground JP-8 storage tanks, known as 736-1, 736-2, 736-3, 736-4, 736-5 and 736-6, installed in 1954, capacity: 50,000 gallons, each.

(2) Four (4) vertical above ground JP-8 storage tanks, known as 400, 401, 402 and 403 installed in 1957, capacity: 590,000 gallons, each.

(3) One (1) vertical above ground JP-8 storage tank, known as 406, installed in 1961, capacity: 1,050,000 gallons.

(4) Two (2) horizontal above ground storage tanks, known as 381 and 382, installed in 1991, capacity: 25,000 gallons of propylene glycol, each.

(i) One (1) boiler, fired by natural gas and no. 2 fuel oil, identified as B592, replacing an old boiler in 1997, equipped with a low NO_x burner, capacity: 5.02 million British thermal units per hour when operating on natural gas and 6.29 million British thermal units per hour when operating on no. 2 fuel oil.

(j) One (1) paint area, located in Nose Dock 2, using the HVLP spray applicators, rollers and brushes existing at building 453, used for coating the interior parts of planes that cannot be removed for painting at building 453, with coating operations beginning in the summer of 1996, capacity: 12 planes per year.

(k) One (1) paint area, located in Nose Dock 6, using the HVLP spray applicators, rollers and brushes existing at building 453, with coating operations beginning in August of 1995, capacity: 52 airplane exteriors per year.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(b) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) British thermal units per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight.

(c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 British thermal units per hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 British thermal units per hour.

(d) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.

(e) VOC and HAP storage tanks with capacities less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.

(f) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. Several cold cleaner degreasing units using only non-halogenated solvents. [326 IAC 8-3-2][326 IAC 8-3-5]

(g) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3]

(h) Groundwater oil recovery wells.

(i) Any operation using aqueous solutions containing less than one percent (1%) by weight of VOCs excluding HAPs.

(j) Stockpiled soils from soil remediation activities that are covered and waiting transport for disposal.

(k) Paved and unpaved roads and parking lots with public access.

(l) Asbestos abatement projects regulated by 326 IAC 14-10.

(m) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

(n) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.

(o) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(p) On-site fire and emergency response training approved by the department.

(q) Emergency generators as follows:

Gasoline generators not exceeding 110 horsepower.
Diesel generators not exceeding 1,600 horsepower.
Natural gas turbines or reciprocating engines not exceeding 16,000 horsepower.

(r) Grinding and machining operations controller with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3]

(s) Activities or categories of activities with HAP emissions greater than 1 pound per day but less than 12.5 pounds per day or 2.5 tons per year of any combination of HAPs:

(1) Installation of compass and global positioning equipment and replacing radar equipment on Air Force planes in Nose Dock 1 (including painting operations). [326 IAC 6-3]

(2) Fuel cell repair

(3) JP-8 fuel handling

(4) Low point draw box remediation

(t) Other activities or categories with emissions below insignificant thresholds:

(1) Four (4) media blasters, equipped with 99% efficient bag filters, operating an average of three (3) hours per day. [326 IAC 6-3]

(2) One (1) no. 2 fuel oil tank, identified as 600, installed in 1986, capacity: 12,000 gallons. [326 IAC 12][40 CFR 60.116b]

(3) One (1) no. 2 fuel oil tank, identified as 592A, installed in 1998, capacity: 15,000 gallons. [326 IAC 12][40 CFR 60.116b]

(4) One (1) diesel tank, identified as 223, installed in 1994, capacity: 2,000 gallons.

(5) One (1) fuel oil tank, identified as 235, installed in 1976, capacity 420,000 gallons.

(6) One (1) diesel tank, identified as 380, installed in 1991, capacity: 10,000.

(7) One (1) gasoline tank, identified as 392, installed in 1978, capacity: 25,000 gallons.

(8) One (1) diesel tank, identified as 447, installed in 1995, capacity: 10,000 gallons.

(9) One (1) diesel tank, identified as 593B, installed in 1990, capacity: 2,000 gallons.

(10) One (1) JP-8 storage tank, identified as 593A, installed in 1990, capacity: 2,000 gallons.

(11) One (1) no. 2 fuel oil storage tank, identified as 593C, installed in 1990, capacity: 2,000 gallons.

(12) Two (2) no. 2 fuel oil storage tanks, identified as 595 and 597, installed in 1993 and 1985, capacity: 4,000 gallons, each.

(13) One (1) gasoline storage tank, identified as 419A, installed in 1987, capacity: 10,000 gallons.

(14) One (1) gasoline tank, identified as 419B, installed in 1987, capacity: 10,000 gallons.

(15) One (1) diesel storage tank, identified as 419C, installed in 1987, capacity: 10,000 gallons.

(16) One (1) no. 2 fuel oil storage tank, identified as 591A, installed in 1998, capacity: 5,000 gallons.

(17) Six (6) fuel oil above ground storage tanks, capacity: less than 1,000 gallons.

(18) Two (2) propylene glycol above ground storage tanks, capacity: less than 1,000 gallons.

(19) One (1) propane storage tank, capacity: 10,000 gallons.

(20) One (1) propane storage tank, capacity: 4,000 gallons.

(21) Several propane tanks equal or less than 1,000 gallons.

(22) Twenty-four (24) diesel above ground storage tanks, capacity: less than 1,000 gallons.

(23) One (1) gasoline above ground storage tank, capacity: less than 1,000 gallons.

(24) One (1) JP-8 above ground storage tank, capacity: less than 1,000 gallons.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [IC 13]

(a) Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7.

(b) This prohibition shall not apply to alleged violations of applicable requirements for which the Commissioner has granted a permit shield in accordance with 326 IAC 2-7-15, as set out in this permit in the Section B condition entitled “Permit Shield.”

B.2 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Permit Term [326 IAC 2-7-5(2)]

This permit is issued for a fixed term of five (5) years from the effective date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3.

B.4 Enforceability [326 IAC 2-7-7(a)]

(a) All terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM.

(b) Unless otherwise stated, terms and conditions of this permit, including any provisions to limit the source’s potential to emit, are enforceable by the United States Environmental Protection Agency (U.S. EPA) and citizens under the Clean Air Act.

B.5 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.6 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.7 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

B.8 Duty to Supplement and Provide Information [326 IAC 2-7-4(b)] [326 IAC 2-7-5(6)(E)]

(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The Permittee shall furnish to IDEM, OAM, within a reasonable time, any information that IDEM, OAM, may request in writing to determine whether cause exists for modifying,

revoking and reissuing, or terminating this permit, or to determine compliance with this permit.

(c) Upon request, the Permittee shall also furnish to IDEM, OAM, copies of records required to be kept by this permit. If the Permittee wishes to assert a claim of confidentiality over any of the furnished records, the Permittee must furnish such records to IDEM, OAM, along with a claim of confidentiality under 326 IAC 17. If requested by IDEM, OAM, or the U.S. EPA, to furnish copies of requested records directly to U. S. EPA, and if the Permittee is making a claim of confidentiality regarding the furnished records, then the Permittee must furnish such confidential records directly to the U.S. EPA along with a claim of confidentiality under 40 CFR 2, Subpart B.

B.9 Compliance with Permit Conditions [326 IAC 2-7-5(6)(A)] [326 IAC 2-7-5(6)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit, except those specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act and is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; or

(3) Denial of a permit renewal application.

(b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B.10 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted under this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, on the attached Certification Form, with each submittal.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

B.11 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The certification shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was based on continuous or intermittent data;

(4) The methods used for determining compliance of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAM, may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

B.12 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this permit, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

B.13 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-7-16.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAM, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Management, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

(5) For each emergency lasting one (1) hour or more, the Permittee submitted notice, either in writing or facsimile, of the emergency to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions) for sources subject to this rule after the effective date of this rule. This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAM, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.

(f) Failure to notify IDEM, OAM, by telephone or facsimile of an emergency lasting more than one (1) hour in compliance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.

Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.14 Permit Shield [326 IAC 2-7-15]

(a) This condition provides a permit shield as addressed in 326 IAC 2-7-15.

(b) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits. Compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that:

(1) The applicable requirements are included and specifically identified in this permit; or

(2) The permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable.

(c) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, including any term or condition from a previously issued construction or operation permit, IDEM, OAM, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(d) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(e) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408 (a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(f) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(g) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAM, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(h) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAM, has issued the modification. [326 IAC 2-7-12(b)(7)]

B.15 Multiple Exceedances [326 IAC 2-7-5(1)(E)]

Any exceedance of a permit limitation or condition contained in this permit, which occurs contemporaneously with an exceedance of an associated surrogate or operating parameter established to detect or assure compliance with that limit or condition, both arising out of the same act or occurrence, shall constitute a single potential violation of this permit.

B.16 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within ten (10) calendar days from the date of the discovery of the deviation.

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) An emergency as defined in 326 IAC 2-7-1(12); or

(3) Failure to implement elements of the Preventive Maintenance Plan unless such failure has caused or contributed to a deviation.

(4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred is a deviation.

(c) Written notification shall be submitted on the attached Emergency/Deviation Occurrence Reporting Form or its substantial equivalent. The notification does not need to be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Proper notice submittal under 326 IAC 2-7-16 satisfies the requirement of this subsection.

B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)]

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAM, determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAM, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAM, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAM, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.18 Permit Renewal [326 IAC 2-7-4]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAM, and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(2) If IDEM, OAM, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-7-3]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAM, takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAM, any additional information identified as being needed to process the application.

(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]
If IDEM, OAM, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

B.19 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule.

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.20 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1)(D)(i) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.21 Operational Flexibility [326 IAC 2-7-20]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-1.1 has been obtained;

(3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20 (b), (c), or (e) and makes such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAM, in the notices specified in 326 IAC 2-7-20(b), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a) and the following additional conditions:

(1) The permit shield, described in 326 IAC 2-7-15, shall not apply to any change made under 326 IAC 2-7-20(b).

(2) For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(i) A brief description of the change within the source;

(ii) The date on which the change will occur;

(iii) Any change in emissions; and

(iv) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAM, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.22 Construction Permit Requirement [326 IAC 2]

A modification, construction, or reconstruction shall be approved if required by and in accordance with the applicable provisions of 326 IAC 2.

B.23 Inspection and Entry [326 IAC 2-7-6(2)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.
[326 IAC 2-7-6(6)]

B.24 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The application which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.25 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)]

(a) The Permittee shall pay annual fees to IDEM, OAM, within thirty (30) calendar days of receipt of a billing. If the Permittee does not receive a bill from IDEM, OAM, the applicable

fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-0425 (ask for OAM, Technical Support and Modeling Section), to determine the appropriate permit fee.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Matter Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

C.4 Incineration [326 IAC 4-2][326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2. The provisions of 326 IAC 9-1-2 are not federally enforceable.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61.140]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least

260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.9 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Schedule [326 IAC 2-7-6(3)]

The Permittee:

(a) Has certified that all facilities at this source are in compliance with all applicable requirements; and

(b) Has submitted a statement that the Permittee will continue to comply with such requirements; and

(c) Will comply with such applicable requirements that become effective during the term of this permit.

C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this permit. All monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.12 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within ninety (90) days after the date of issuance of this permit.

The ERP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAM, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present at a source in more than a threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall:

(a) Submit:

(1) A compliance schedule for meeting the requirements of 40 CFR 68 by the date provided in 40 CFR 68.10(a); or

(2) As a part of the compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and

(3) A verification to IDEM, OAM, that a RMP or a revised plan was prepared and submitted as required by 40 CFR 68.

(b) Provide annual certification to IDEM, OAM, that the Risk Management Plan is being properly implemented.

All documents submitted pursuant to this condition shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.15 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall consti-

tute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement

shall meet the following requirements:

(1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

C.18 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

(a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM, may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.19 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three

(3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this permit;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.20 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Quarterly Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(d) Unless otherwise specified in this permit, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) All instances of deviations as described in Section B- Deviations from Permit Requirements Conditions must be clearly identified in such reports. The Emergency/Deviation Occurrence Report does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

(g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

Stratospheric Ozone Protection

C.21 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(a) One (1) boiler, identified as BOI1, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 1, capacity: 48.0 million British thermal units per hour.

(b) One (1) boiler, identified as BOI2, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 2, capacity: 48.0 million British thermal units per hour.

(c) One (1) boiler, identified as BOI3, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 3, capacity: 50.7 million British thermal units per hour when operating on natural gas and 49.5 when operating on no. 2 fuel oil.

(d) One (1) boiler, identified as BOI4, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 3, capacity: 50.7 million British thermal units per hour when operating on natural gas and 49.5 when operating on no. 2 fuel oil.

(e) One (1) boiler, identified as BOI5, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 4, capacity: 83.5 million British thermal units per hour when operating on natural gas and 81.5 when operating on no. 2 fuel oil.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, the PM emissions from each of the five (5) boilers (BOI1, BOI2, BOI3, BOI4, and BOI5) shall not exceed 0.25 pounds per million British thermal units. The limitation was computed using the following equation:

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

D.1.2 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1]

Pursuant to 326 IAC 7-1.1 (SO_2 Emissions Limitations) the SO_2 emissions from each of the five (5) boilers (BOI1, BOI2, BOI3, BOI4 and BOI5) shall not exceed five tenths (0.5) pounds per MMBtu heat input.

D.1.3 PSD Minor Modification Limit [326 IAC 2-2] [40 CFR 52.21]

(a) The input of no. 2 fuel oil to the three (3) boilers (BOI3, BOI4 and BOI5) shall be less than 4,732,394 gallons per consecutive twelve (12) month period, based on a monthly rolling total. For the purpose of this limitation, each million cubic feet of natural gas shall be equivalent to using 8 gallons of no. 2 fuel oil. Pursuant to CP 103-2636-00008, issued on

December 18, 1992, this usage limit is required to limit the potential to emit of SO_2 to 167 tons per year, which resulted in an increase in emissions of less than 40 tons per year from the modification in that permit. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

(b) The requirement from CP 103-2636-00008, issued on December 18, 1992, Operation Condition 4, that requires that the amount of natural gas usage for the boilers (BOI3, BOI4 and BOI5) be limited to 1324.2 million cubic feet per year, is not incorporated into this permit. The fuel usage was limited to make the modification in that permit, in combination with other contemporaneous increases, a minor modification to an existing major source. Since the NO_X emission factor for natural gas has been changed from 140 pounds per million cubic feet of natural gas to 100 pounds per million cubic feet of natural gas, the limit must be changed for this permit as follows:

140 lbs/mmcf x 1324.2 mmcf/yr / 2000 lbs/ton = 92.7 tons/yr

100 lbs/mmcf x A mmcf/yr / 2000 lbs/ton = 92.7 tons/yr, where A is the new natural gas usage limit.

A = 1854 mmcf/yr

Since the potential natural gas usage by boilers BOI3, BOI4 and BOI5 is less than 1620 million cubic feet per year, the natural gas usage limitation is no longer required.

(c) The requirement from CP 103-2636-00008, issued on December 18, 1992, Operation Condition 5, that requires that the amount of # 2 fuel oil usage for the boilers (BOI3, BOI4 and BOI5) shall be limited to 4,660,062 gallons per year, is revised in this permit as stated in (a) of this condition. The fuel usage was limited to make the modification, in combination with other contemporaneous increases, a minor modification to an existing major source. Since the SO_2 emission factor for no. 2 fuel oil has been changed from (144 x percent sulfur in fuel) pounds per kilogallon of no. 2 fuel oil to (142 x percent sulfur in fuel) pounds per kilogallon of no. 2 fuel oil, and the potential sulfur content has remained 0.5% at this source, the limit must be changed for this permit as follows:

(144 x 0.5) lbs/kgal x 4,660.062 kgal/yr / 2000 lbs/ton = 168 tons/yr

(142 x 0.5) lbs/kgal x B kgal/yr / 2000 lbs/ton = 168 tons/yr, where B is the new no. 2 fuel oil usage limit.

B = 4,732,394 gallons/yr

Since the potential no. 2 fuel oil usage by boilers BOI3, BOI4 and BOI5 is 11,294,000 gallons, the usage of no. 2 fuel oil will be limited to 4,732,394 gallons per consecutive twelve (12) month period, based on a monthly rolling total. For the purpose of this limitation, each million cubic feet of natural gas shall be equivalent to using 8 gallons of no. 2 fuel oil. This limitation is stated in (a) of this condition.

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities.

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the PM and SO_2 limits specified in Conditions D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.6 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options.

(a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the fuel oil sulfur content does not exceed five-tenths percent (0.5%) by weight by:

(1) Providing vendor analysis of fuel delivered, if accompanied by a certification;

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling; or

(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the five (5) boilers (BOI1, BOI2, BOI3, BOI4, and BOI5), using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to either of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.7 Visible Emissions Notations

(a) Daily visible emission notations of the boiler stacks exhaust shall be performed during normal daylight operations when exhausting to the atmosphere and operating on no. 2 fuel oil. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.8 Record Keeping Requirements

(a) To document compliance with Conditions D.1.2 and D.1.3, the Permittee shall maintain records in accordance with (1) through (6) below.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;

(3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(4) Fuel supplier certifications;

(5) The name of the fuel supplier; and

(6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

(b) To document compliance with Condition D.1.7, the Permittee shall maintain records of daily visible emission notations of the boiler stacks exhaust when operating on no. 2 fuel oil.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.3 in any compliance period when no. 2 fuel oil was combusted, and the natural gas fired boiler certification, shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(f) One (1) spray paint booth, located in building 453, constructed in 1989, equipped with eight (8) high volume low pressure (HVLP) spray guns and one (1) electrostatic HVLP spray gun, capacity: 1 aircraft panel per hour.

(j) One (1) paint area, located in Nose Dock 2, using the HVLP spray applicators, rollers and brushes existing at building 453, used for coating the interior parts of planes that cannot be removed for painting at building 453, with coating operations beginning in the summer of 1996, capacity: 12 planes per year.

(k) One (1) paint area, located in Nose Dock 6, using the HVLP spray applicators, rollers and brushes existing at building 453, with coating operations beginning in August of 1995, capacity: 52 airplane exteriors per year.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

(a) The VOC usage at the one (1) spray paint booth, located in building 453, shall be limited to less than 25 tons per twelve (12) consecutive months, based on a monthly rolling total. This will result in VOC emissions of less than 25 tons per year. Therefore, the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating), are not applicable.

(b) The VOC usage at the one (1) paint area, located in Nose Dock 2, shall be limited to less than 15 pounds per day. This will result in VOC emissions of less than 15 pounds per day. Therefore, the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating), are not applicable.

(c) Any change or modification at the one (1) paint area, located in Nose Dock 6, that results in coating metal parts other than the exterior of airplanes may result in the applicability of 326 IAC 8-2-9 (Miscellaneous Metal Coating), and shall require prior approval by IDEM, the Office of Air Management.

(d) The requirement from the registration, issued on October 26, 1989, for the aircraft maintenance facility, including a spray booth capable of painting one unit (aircraft panel) per hour, a stripping area capable of paint stripping two units per hour, and a fiberglass shop capable of cutting and sanding one unit per hour in building 453, that any change or modification which may increase the potential emissions to 25 tons of particulate matter or volatile organic compounds (VOC) per year or more from the equipment covered in this letter must be approved by the Office of Air Management before such change may occur, is not incorporated into this permit because, although there have been no changes to the painting area in Building 453, calculated potential emissions are greater than 25 tons per year of VOC. The source has limited emissions to less than 25 tons per year. Therefore, there is a limitation on emissions of less 25 tons per year of VOC in (a) of this condition.

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Any change or modification at the one (1) paint area, located in Nose Dock 6, that results in VOC emissions of 25 tons per year or more may result in the applicability of 326 IAC 8-1-6 (New Facilities; General reduction requirements), and shall require prior approval.

D.2.3 PSD Minor Modification [326 IAC 2-2] [40 CFR 52.21]

Any change or modification at the one (1) paint area, located in Nose Dock 2, or the one (1) paint area located in Nose Dock 6, that results in VOC emissions of 40 tons per year or more, PM emissions of 25 tons per year or more, or PM_{10} emissions of 15 tons per year or more will make the paint area a major modification to an existing major source, pursuant to 326 IAC 2-2, and will require prior approval.

D.2.4 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2, the PM from the one (1) spray paint booth located in building 453, the one (1) paint area located in Nose Dock 2 and the one (1) paint area located in Nose Dock 6 shall be limited by the following shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

D.2.5 Hazardous Air Pollutants (HAPs)

(a) The total HAP usage at the one (1) spray paint booth, located in building 453, one (1) paint area located in Nose Dock 2 and the one (1) paint area located in Nose Dock 6, shall be limited to no more than 17.6 tons per twelve (12) consecutive months, based on a monthly rolling total. This will result in total HAP emissions of no more than 17.3 tons per year from these facilities and total HAP emissions of less than 25 tons per year from the entire source.

(b) The combined total usage of each individual hazardous air pollutant at the one (1) spray paint room in building 453, one (1) paint area at Nose Dock 2, and one (1) paint area at Nose Dock 6 shall be limited to less than 9 tons per twelve (12) consecutive months, based on a monthly rolling total. The total usage of Methyl isobutyl ketone (MIBK) at the one (1) spray paint room in building 453, one (1) paint area at Nose Dock 2, and one (1) paint area at Nose Dock 6 shall be limited to less than 8.92 tons per twelve (12) consecutive months, based on a monthly rolling total, and the total usage of Hexane at the one (1) spray paint room in building 453, one (1) paint area at Nose Dock 2, and one (1) paint area at Nose Dock 6 shall be limited to less than 7.75 tons per twelve (12) consecutive months, based on a monthly rolling total. This will result in emissions of each individual hazardous air pollutant of less than 9 tons per year and total individual HAP emissions of less than 10 tons per year from the entire source.

As a result of these limitations, the requirements of 40 CFR Part 63, Subpart GG, are not applicable.

D.2.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities.

Compliance Determination Requirements

D.2.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.2.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.8 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs)

Compliance with the VOC and HAP usage limitations contained in Conditions D.2.1, D.2.2, D.2.3 and D.2.5 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.2.9 VOC Emissions and HAP Emissions

(a) Compliance with Conditions D.2.1(a) and D.2.5 shall be demonstrated within 30 days of the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period.

(b) Compliance with Condition D.2.1(b) shall be demonstrated within 30 days of the end of each month based on the total volatile organic compound usage for each day in that month.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.10 Monitoring

(a) Weekly observations shall be made of the overspray from the surface coating stacks or emission points while the areas are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks or emission points and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.11 Record Keeping Requirements

(a) To document compliance with Conditions D.2.1(a) and D.2.5, the Permittee shall maintain records at the one (1) spray paint booth located in building 453, one (1) paint area at Nose Dock 2, and one (1) paint area at Nose Dock 6 in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC and HAP usage limits established in Conditions D.2.1(a) and D.2.5.

(1) The amount and VOC and HAP content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each month;

(4) The total VOC and HAP usage for each month; and

(5) The weight of VOCs and HAPs emitted for each compliance period.

(b) To document compliance with Condition D.2.1(b), the Permittee shall maintain records at the one (1) paint area located in Nose Dock 2, in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits established in Condition D.2.1(b).

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each day;

(4) The total VOC usage for each day; and

(5) The weight of VOCs emitted for each compliance period.

(c) To document compliance with Condition D.2.10, the Permittee shall maintain a log of weekly overspray observations and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.12 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.2.1 and D.2.5 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(g) One (1) grit blast room, located in building 426, constructed in 1989, equipped with a baghouse, capacity: 767 pounds of grit per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the one (1) grit blast room shall not exceed 2.16 pounds per hour when operating at a process weight rate of 767 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.3.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.3.3 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.3.4 Particulate Matter (PM)

The baghouse for PM control shall be in operation at all times when the one (1) grit blast room is in operation.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(h) One (1) bulk POL system, constructed in 1990, consisting of the following:

(1) Six (6) horizontal underground JP-8 storage tanks, known as 736-1, 736-2, 736-3, 736-4, 736-5 and 736-6, installed in 1954, capacity: 50,000 gallons, each.

(2) Four (4) vertical above ground JP-8 storage tanks, known as 400, 401, 402 and 403 installed in 1957, capacity: 590,000 gallons, each.

(3) One (1) vertical above ground JP-8 storage tank, known as 406, installed in 1961, capacity: 1,050,000 gallons.

(4) Two (2) horizontal above ground storage tanks, known as 381 and 382, installed in 1991, capacity: 25,000 gallons of propylene glycol, each.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Volatile Organic Compounds (VOCs) [326 IAC 8-1-6]

Any change or modification to the bulk POL system that results in an increase in VOC to 25 tons per year or more, may result in the applicability of 326 IAC 8-1-6, and prior approval is required.

D.4.2 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12][40 CFR 60.116b]

The two (2) propylene glycol storage tanks, identified as 381 and 382, shall comply with the New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60.116b, Subpart Kb). 40 CFR Part 60.116b paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimension of each storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tanks.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.3 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12][40 CFR 60.116b]

The Permittee shall maintain accessible records showing the dimension of the two (2) propylene glycol storage tanks, identified as 381 and 382, and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tanks. A copy of 40 CFR Part 60, Subpart Kb, is attached.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(i) One (1) boiler, fired by natural gas and no. 2 fuel oil, identified as B592, replacing an old boiler in 1997, equipped with a low NO_x burner, capacity: 5.02 million British thermal units per hour when operating on natural gas and 6.29 million British thermal units per hour when operating on no. 2 fuel oil.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, the PM emissions from the one (1) boiler (B592) shall not exceed 0.25 pounds per million British thermal units. The limitation was computed using the following equation:

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

Compliance Determination Requirements

D.5.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Conditions D.5.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.3 Reporting Requirements

The natural gas fired boiler certification, shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] - Insignificant Activities

(f) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. Several cold cleaner degreasing units using only non-halogenated solvents. [326 IAC 8-3-2][326 IAC 8-3-5]

(g) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3]

(r) Grinding and machining operations controller with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3]

(s) Activities or categories of activities with HAP emissions greater than 1 pound per day but less than 12.5 pounds per day or 2.5 tons per year of any combination of HAPs:

(1) Installation of compass and global positioning equipment and replacing radar equipment on Air Force planes in Nose Dock 1 (including painting operations). [326 IAC 6-3]

(t) Other activities or categories with emissions below insignificant thresholds:

(1) Four (4) media blasters, equipped with 99% efficient bag filters, operating an average of three (3) hours per day. [326 IAC 6-3]

(2) One (1) no. 2 fuel oil tank, identified as 600, installed in 1986, capacity: 12,000 gallons. [326 IAC 12][40 CFR 60.116b]

(3) One (1) no. 2 fuel oil tank, identified as 592A, installed in 1998, capacity: 15,000 gallons.[326 IAC 12][40 CFR 60.116b]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12][40 CFR 60.116b]

The one (1) no. 2 fuel oil tank, identified as 600, and the one (1) no. 2 fuel oil tank, identified as 592A, shall comply with the New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60.116b, Subpart Kb). 40 CFR Part 60.116b paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimension of each storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tanks.

D.6.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator of the cold cleaner operations constructed after January 1, 1980 and prior to January 1, 1990 shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a matter that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.6.3 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaner degreaser facility constructed after January 1, 1990 shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S.

EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

D.6.4 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the paint operations in Nose Dock 1 shall not exceed allowable PM emission rate based on the following equations:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

(b) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the grinding and machining operations, four (4) media blasters, and the brazing, cutting , soldering, and welding shall not exceed allowable PM emission rate based on the following equations:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

Compliance Determination Requirement

D.6.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the PM limits specified in Condition D.6.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.6.6 Particulate Matter (PM)

The bag filters for PM control shall be in operation at all times when the four (4) media blasters are in operation.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.7 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12][40 CFR 60.116b]

The Permittee shall maintain accessible records showing the dimension of the one (1) no. 2 fuel oil tank, identified as 600, and the one (1) no. 2 fuel oil tank, identified as 592A and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tanks. A copy of 40 CFR Part 60, Subpart Kb, is attached.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: Grissom Air Reserve Base
Source Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Mailing Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Part 70 Permit No.: T 103-7426-00008

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

9 Annual Compliance Certification Letter

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

PART 70 OPERATING PERMIT
EMERGENCY/DEVIATION OCCURRENCE REPORT

Source Name: Grissom Air Reserve Base
Source Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Mailing Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Part 70 Permit No.: T 103-7426-00008

This form consists of 2 pages **Page 1 of 2**

Check either No. 1 or No.2
9 1. This is an emergency as defined in 326 IAC 2-7-1(12) C The Permittee must notify the Office of Air Management (OAM), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and C The Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16
9 2. This is a deviation, reportable per 326 IAC 2-7-5(3)(C) C The Permittee must submit notice in writing within ten (**10**) calendar days

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency/Deviation:
Describe the cause of the Emergency/Deviation:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency/Deviation started:
Date/Time Emergency/Deviation was corrected:
Was the facility being properly operated at the time of the emergency/deviation? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency/deviation:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT
NATURAL GAS FIRED BOILER CERTIFICATION

Source Name: Grissom Air Reserve Base
Source Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Mailing Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Part 70 Permit No.: T 103-7426-00008

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Report period
Beginning: _____
Ending: _____

Boiler Affected	Alternate Fuel	Days burning alternate fuel From	To

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION
Part 70 Quarterly Report

Source Name: Grissom Air Reserve Base
Source Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Mailing Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Part 70 Permit No.: T 103-7426-00008
Facility: One (1) paint area, located in Nose Dock 2
Parameter: VOC usage
Limit: Less than 15 pounds per day

Months:_____ **Year:** _____

Day	Month 1	Month 2	Month 3	Day	Month 1	Month 2	Month 3
1				17			
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16				no. of deviations			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Grissom Air Reserve Base
Source Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Mailing Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Part 70 Permit No.: T 103-7426-00008
Facility: One (1) spray paint booth, located in building 453
Parameter: VOC usage
Limit: Less than 25 tons per consecutive twelve (12) month period, based on a monthly rolling total

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Grissom Air Reserve Base
Source Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Mailing Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Part 70 Permit No.: T 103-7426-00008
Facility: One (1) spray paint booth, located in building 453, one (1) paint area in Nose Dock 2 and one (1) paint area in Nose Dock 6
Parameter: Total HAP usage
Limit: Less than 17.6 tons per consecutive twelve (12) month period, based on a monthly rolling total

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Grissom Air Reserve Base
Source Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Mailing Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Part 70 Permit No.: T 103-7426-00008
Facility: One (1) spray paint booth, located in building 453, one (1) paint area in Nose Dock 2 and one (1) paint area in Nose Dock 6
Parameter: Individual HAP usage
Limit: Less than 9 tons per consecutive twelve (12) month period, based on a monthly rolling total, less than 8.92 tons of Methyl isobutyl ketone (MIBK) per consecutive twelve (12) month period, based on a monthly rolling total, and less than 7.75 tons of Hexane per consecutive twelve (12) month period, based on a monthly rolling total

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Grissom Air Reserve Base
Source Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Mailing Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Part 70 Permit No.: T 103-7426-00008
Facility: Three (3) boilers (BOI3, BOI4 and BOI5)
Parameter: No. 2 fuel oil usage
Limit: 4,732,394 gallons per consecutive twelve (12) month period, based on a monthly rolling total, where each million cubic feet (mmcf) of natural gas is equivalent to 8 gallons of no. 2 fuel oil

YEAR: _____

Month	Column 1 (This Month)		Column 2 (Previous 11 Months)		Column 1 + Column 2 (12 Month Total)		
	gallons	mmcf x 8	gallons	mmcf x 8	gallons	mmcf x 8	total
Month 1							
Month 2							
Month 3							

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT
QUARTERLY COMPLIANCE MONITORING REPORT

Source Name: Grissom Air Reserve Base
Source Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Mailing Address: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000
Part 70 Permit No.: T 103-7426-00008

Months:_____ **to** _____ **Year:** _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted quarterly. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (e.g. Permit Condition D.1.3)	**Number of Deviations**	**Date of each Deviation**

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Part 70 Operating Permit

Source Background and Description

Source Name:	**Grissom Air Reserve Base**
Source Location:	**434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000**
County:	**Miami**
SIC Code:	**9711**
Operation Permit No.:	**T 103-7426-00008**
Permit Reviewer:	**CarrieAnn Ortolani**

The Office of Air Management (OAM) has reviewed a Part 70 permit application from Grissom Air Reserve Base relating to the operation of a military base.

Source Definition

This military base consists of many buildings. All buildings at Grissom Air Reserve Base will be considered part of this source.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) boiler, identified as BOI1, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 1, capacity: 48.0 million British thermal units per hour.

(b) One (1) boiler, identified as BOI2, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 2, capacity: 48.0 million British thermal units per hour.

(c) One (1) boiler, identified as BOI3, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 3, capacity: 50.7 million British thermal units per hour when operating on natural gas and 49.5 million British thermal units per hour when operating on no. 2 fuel oil.

(d) One (1) boiler, identified as BOI4, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 3, capacity: 50.7 million British thermal units per hour when operating on natural gas and 49.5 million British thermal units per hour when operating on no. 2 fuel oil.

(e) One (1) boiler, identified as BOI5, constructed in 1955, fired by natural gas and no. 2 fuel oil, exhausting through Stack 4, capacity: 83.5 million British thermal units per hour when operating on natural gas and 81.5 million British thermal units per hour when operating on no. 2 fuel oil.

(f) One (1) spray paint booth, located in building 453, constructed in 1989, equipped with eight (8) high volume low pressure (HVLP) spray guns and one (1) electrostatic HVLP spray gun, capacity: 1 aircraft panel per hour.

(g) One (1) grit blast room, located in building 426, constructed in 1989, equipped with a bag-house, capacity: 767 pounds of grit per hour.

(h) One (1) bulk POL system, constructed in 1990, consisting of the following:

(1) Six (6) horizontal underground JP-8 storage tanks, known as 736-1, 736-2, 736-3, 736-4, 736-5 and 736-6, installed in 1954, capacity: 50,000 gallons, each.

(2) Four (4) vertical above ground JP-8 storage tanks, known as 400, 401, 402 and 403 installed in 1957, capacity: 590,000 gallons, each.

(3) One (1) vertical above ground JP-8 storage tank, known as 406, installed in 1961, capacity: 1,050,000 gallons.

(4) Two (2) horizontal above ground storage tanks, known as 381 and 382, installed in 1991, capacity: 25,000 gallons of propylene glycol, each.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

(i) One (1) boiler, fired by natural gas and no. 2 fuel oil, identified as B592, replacing an old boiler in 1997, equipped with a low NO_x burner, capacity: 5.02 million British thermal units per hour when operating on natural gas and 6.29 million British thermal units per hour when operating on no. 2 fuel oil.

(j) One (1) paint area, located in Nose Dock 2, using the HVLP spray applicators, rollers and brushes existing at building 453, used for coating the interior parts of planes that cannot be removed for painting at building 453, with coating operations beginning in the summer of 1996, capacity: 12 planes per year.

(k) One (1) paint area, located in Nose Dock 6, using the HVLP spray applicators, rollers and brushes existing at building 453, with coating operations beginning in August of 1995, capacity: 52 airplane exteriors per year.

At the time of installation, the one (1) boiler required a registration because the allowable and potential emissions of SO_2 are greater than 50 pounds per day when operating on no. 2 fuel oil, but less than 25 tons per year. When operations began at the two (2) paint areas (Nose Dock 2 and Nose Dock 6), the two (2) paint areas required registrations because the potential and allowable VOC emissions from each area is greater than 3 pounds per hour or 15 pounds per day, but less than 25 tons per year. See the Emission Calculations section of this document for detailed calculations on the annual potential VOC emissions from Nose Dock 2.

New Emission Units and Pollution Control Equipment Requiring ENSR

There are no new facilities at this source.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

(b) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) British thermal units per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight.

(c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 British thermal units per hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 British thermal units per hour.

(d) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.

(e) VOC and HAP storage tanks with capacities less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.

(f) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. Several cold cleaner degreasing units using only non-halogenated solvents. [326 IAC 8-3-2][326 IAC 8-3-5]

(g) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3]

(h) Groundwater oil recovery wells.

(i) Any operation using aqueous solutions containing less than one percent (1%) by weight of VOCs excluding HAPs.

(j) Stockpiled soils from soil remediation activities that are covered and waiting transport for disposal.

(k) Paved and unpaved roads and parking lots with public access.

(l) Asbestos abatement projects regulated by 326 IAC 14-10.

(m) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

(n) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.

(o) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(p) On-site fire and emergency response training approved by the department.

(q) Emergency generators as follows:

Gasoline generators not exceeding 110 horsepower.
Diesel generators not exceeding 1,600 horsepower.
Natural gas turbines or reciprocating engines not exceeding 16,000 horsepower.

(r) Grinding and machining operations controller with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3]

(s) Activities or categories of activities with HAP emissions greater than 1 pound per day but less than 12.5 pounds per day or 2.5 tons per year of any combination of HAPs:

(1) Installation of compass and global positioning equipment and replacing radar equipment on Air Force planes in Nose Dock 1 (including painting operations). [326 IAC 6-3]

(2) Fuel cell repair

(3) JP-8 fuel handling

(4) Low point draw box remediation

(t) Other activities or categories with emissions below insignificant thresholds:

(1) Four (4) media blasters, equipped with 99% efficient bag filters, operating an average of three (3) hours per day. [326 IAC 6-3]

(2) One (1) no. 2 fuel oil tank, identified as 600, installed in 1986, capacity: 12,000 gallons. [326 IAC 12][40 CFR 60.116b]

(3) One (1) no. 2 fuel oil tank, identified as 592A, installed in 1998, capacity: 15,000 gallons. [326 IAC 12][40 CFR 60.116b]

(4) One (1) diesel tank, identified as 223, installed in 1994, capacity: 2,000 gallons.

(5) One (1) fuel oil tank, identified as 235, installed in 1976, capacity 420,000 gallons.

(6) One (1) diesel tank, identified as 380, installed in 1991, capacity: 10,000.

(7) One (1) gasoline tank, identified as 392, installed in 1978, capacity: 25,000 gallons.

(8) One (1) diesel tank, identified as 447, installed in 1995, capacity: 10,000 gallons.

(9) One (1) diesel tank, identified as 593B, installed in 1990, capacity: 2,000 gallons.

(10) One (1) JP-8 storage tank, identified as 593A, installed in 1990, capacity: 2,000 gallons.

(11) One (1) no. 2 fuel oil storage tank, identified as 593C, installed in 1990, capacity: 2,000 gallons.

(12) Two (2) no. 2 fuel oil storage tanks, identified as 595 and 597, installed in 1993 and 1985, capacity: 4,000 gallons, each.

(13) One (1) gasoline storage tank, identified as 419A, installed in 1987, capacity: 10,000 gallons.

(14) One (1) gasoline tank, identified as 419B, installed in 1987, capacity: 10,000 gallons.

(15) One (1) diesel storage tank, identified as 419C, installed in 1987, capacity: 10,000 gallons.

(16) One (1) no. 2 fuel oil storage tank, identified as 591A, installed in 1998, capacity: 5,000 gallons.

(17) Six (6) fuel oil above ground storage tanks, capacity: less than 1,000 gallons.

(18) Two (2) propylene glycol above ground storage tanks, capacity: less than 1,000 gallons.

(19) One (1) propane storage tank, capacity: 10,000 gallons.

(20) One (1) propane storage tank, capacity: 4,000 gallons.

(21) Several propane tanks equal or less than 1,000 gallons.

(22) Twenty-four (24) diesel above ground storage tanks, capacity: less than 1,000 gallons.

(23) One (1) gasoline above ground storage tank, capacity: less than 1,000 gallons.

(24) One (1) JP-8 above ground storage tank, capacity: less than 1,000 gallons.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) OP 53-03-83-0079, issued on March 22, 1979;

(b) Exemption issued on June 16, 1989;

(c) Registration, issued October 26, 1989;

(d) OP 53-03-94-0124, issued on July 13, 1990;

(e) OP 53-03-94-0125, issued July 13, 1990;

(f) OP 53-03-94-0126, issued July 13, 1990;

(g) OP 53-03-94-0127, issued July 13, 1990;

(h) OP 52-03-94-0128, issued on July 13, 1990;

(i) Registration (ID No. 2720-0008) issued on July 18, 1990;

(j) Registration (ID No. 103-00008) issued on May 13, 1991;

(k) Exemption, issued May 15, 1991;

(l) Amendment to OP 53-03-94-0125 through 0127, issued February 18, 1992;

(m) CP 103-2636-00008, issued on December 18, 1992;

(n) Operation Permit Validation letter, issued August 24, 1993; and

(o) Amendment to CP 103-2636-00008, issued May 9, 1995.

All conditions from previous approvals that have not previously been superceded, modified, or replaced in another permit or permit amendment were incorporated into this Part 70 operating permit except the following:

(a) Registration, issued on October 26, 1989, for the aircraft maintenance facility, including a spray booth capable of painting one unit (aircraft panel) per hour, a stripping area capable of paint stripping two units per hour, and a fiberglass shop capable of cutting and sanding one unit per hour in building 453.

Wording:

Any change or modification which may increase the potential emissions to 25 tons of particulate matter or volatile organic compounds (VOC) per year or more from the equipment covered in this letter must be approved by the Office of Air Management before such change may occur.

Records of the coating solvent contents and gallons of coating applied shall be kept for at least the past twenty-four month period and made available to the Office of Air Management upon request in order to document that the above emission rate is not exceeded.

Reason not incorporated:

There have been no changes to the painting area in Building 453. However, calculated potential emissions (see page 7 of 10 of Appendix A) are greater than 25 tons per year of VOC. The source has limited emissions to less than 25 tons per year. Therefore, this condition will be replaced with a limitation on emissions of less 25 tons per year of VOC. The source should have received a Construction and Operation Permit. This proposed permit is intended to satisfy the requirements of the minor source modification rules (326 IAC 2-7-10.5(d)(5).

(b) CP 103-2636-00008, issued on December 18, 1992

Operation Condition 4:

That the amount of natural gas usage for the boilers (no. 3, 4 and 5) shall be limited to 1324.2 million cubic feet per year, based on a twelve month average rolled on a monthly basis. During the first 12 months of operation, natural usage shall be limited such that total natural gas usage divided by the months of operation shall not exceed 110.35 million cubic feet per year.

Reasons not incorporated:

Fuel usage was limited to make the change, in combination with other contemporaneous increases, a minor modification to an existing major source. Since the NO_x emission factor for natural gas has been changed from 140 pounds per million cubic feet of natural gas to 100 pounds per million cubic feet of natural gas, the limit must be changed for this permit as follows:

140 lbs/mmcf x 1324.2 mmcf/yr / 2000 lbs/ton = 92.7 tons/yr

100 lbs/mmcf x A mmcf/yr / 2000 lbs/ton = 92.7 tons/yr, where A is the new natural gas usage limit.

A = 1854 mmcf/yr

Since the potential natural gas usage by boilers BOI3, BOI4 and BOI5 is less than 1620 million cubic feet per year, the natural gas usage limitation is no longer required.

(c) CP 103-2636-00008, issued on December 18, 1992

Operation Condition 5:

That the amount of # 2 fuel oil usage for the boilers (#3, 4, and 5) shall be limited to 4,660,062 gallons per year, based on a twelve month average rolled on a monthly basis. During the first 12 months of operation, fuel oil usage shall be limited such that total fuel oil usage divided by the months of operation shall not exceed 388,338.5 gallons per month. For each gallon of fuel used, the natural gas usage shall be reduced by 142.8 cubic feet. Therefore, this conditions and condition Nos. 4, 6, and 7 will make the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21 not applicable.

Reasons not incorporated:

Fuel usage was limited to make the change, in combination with other contemporaneous increases, a minor modification to an existing major source. Since the SO_2 emission factor for no. 2 fuel oil has been changed from (144 x percent sulfur in fuel) pounds per kilogallon of no. 2 fuel oil to (142 x percent sulfur in fuel) pounds per kilogallon of no. 2 fuel oil, and the potential sulfur content has remained 0.5% at this source, the limit must be changed for this permit as follows:

(144 x 0.5) lbs/kgal x 4,660.062 kgal/yr / 2000 lbs/ton = 168 tons/yr

(142 x 0.5) lbs/kgal x B kgal/yr / 2000 lbs/ton = 168 tons/yr, where B is the new no. 2 fuel oil usage limit.

B = 4,732,394 gallons/yr

Since the potential no. 2 fuel oil usage by boilers BOI3, BOI4 and BOI5 is 11,294 kilogallons, the usage of no. 2 fuel oil will be limited to 4,732,394 gallons per consecutive twelve (12) month period, based on a monthly rolling total. For the purpose of this limitation, each million cubic feet of natural gas shall be equivalent to using 0.008 kilogallons, or 8 gallons of no. 2 fuel oil.

Enforcement Issue

(a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit or approval. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment.*

(b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 permit application for the purposes of this review was received on December 10, 1996. Additional information was received on August 31, 1998, September 21, 1998, February 26, 1999, April 22, 1999, April 23, 1999, May 6, 1999, and August 20, 1999.

A notice of completeness letter was mailed to the source on January 7, 1997.

Emission Calculations

In order to develop conservative potential emission calculations, the coating operations in Nose Dock 1, 2 and 6 were assumed to operate at maximum capacity for 8,760 hours per year. Because the coating operations are performed on airplanes, space limitations prevent the coating operations from occurring at maximum capacity for 8,760 hours per year. Therefore, the emission calculations on page 7 of 10 of TSD Appendix A overestimate the annual potential emissions from those areas.

In addition, based on the paint operation specifications mandated by the military for the type of aircraft painted at the source, the maximum amount of paint, excluding thinner, that can be used at Nose Dock 2 in an eight hour shift is 1.5 gallons. Therefore, the maximum amount of paint used in a day is 4.5 gallons. Using the maximum VOC content coating at Nose Dock 2 from page 7 of 10 of TSD Appendix A, the potential daily VOC emissions, excluding thinner, at Nose Dock 2 are 18.4 pounds per day (4.09 lbs VOC/gallon x 4.5 gallons/day = 18.4 lbs/day). Potential annual emissions, excluding thinner, at Nose Dock 2 are 3.36 tons per year (18.4 lbs/day x 365 days/yr / 2000 lbs/ton = 3.36 tons/yr), and potential emissions including thinner are 11.5 tons per year. For all purposes of this permit, potential emissions will be based on operating at maximum capacity for 8,760 hours per year. However, as shown in the calculations of this paragraph, Nose Dock 2 required a registration and not a construction permit at the time coating operations began in Nose Dock 2.

See Appendix A of this document for detailed emissions calculations (pages 1 through 10 of 10).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Pollutant	**Potential To Emit** (tons/year)
PM	129
PM_{10}	109
SO_2	633
VOC	165
CO	110
NO_X	182

Note: For the purpose of determining Title V applicability for particulates, PM_{10}, not PM, is the regulated pollutant in consideration.

HAP's	**Potential To Emit** (tons/year)
Benzene	less than 10
Dichlorobenzene	less than 10
Formaldehyde	less than 10
Hexane	less than 10
Toluene	greater than 10
Lead	less than 10
Cadmium	less than 10
Chromium	less than 10
Manganese	less than 10
Nickel	less than 10
Arsenic	less than 10
Beryllium	less than 10
Mercury	less than 10
Selenium	less than 10

HAP's	Potential To Emit (tons/year)
Xylenes	less than 10
Methyl isobutyl ketone	greater than 10
Methyl ethyl ketone	greater than 10
Glycol Ethers	greater than 10
Ethyl benzene	less than 10
TOTAL	greater than 25

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM_{10}, VOC, SO_2, CO and NO_x are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

The following table shows the actual emissions from the source. The HAP information reflects the most recent emission data OAM emission data. No previous emission data for the criteria air pollutants has been received from the source.

Pollutant	Actual Emissions (tons/year)
Methyl chloroform	0.003
Methyl ethyl ketone	0.058
Naphthalene	0.040
Ethyl benzene	0.00005
Dichlorobenzene	0.003
Ethylene glycol	0.851
Methyl isobutyl ketone	0.012
Toluene	0.022
Tetrachloroethylene	0.002

Pollutant	Actual Emissions (tons/year)
Hexamethylene	0.021
Xylenes	0.005
Chromium Compounds	0.045
Cyanide Compounds	0.452
Benzene	0.211

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPS
Two (2) boilers, fired by natural gas or no. 2 fuel oil (BOI1 and BOI2)	6.00	6.00	214	2.32	35.4	60.0	0.793
Three (3) boilers, fired by natural gas or no. 2 fuel oil (BOI3, BOI4, BOI5)	4.73	6.16	167	4.45	68.1	81.0	1.53
One (1) boiler, fired by natural gas or no. 2 fuel oil (B592)	0.394	0.394	14.0	0.121	1.85	3.94	0.041
One (1) spray paint room in bldg. 453	4.42	4.42	0.00	24.9	0.00	0.00	17.6 (total with paint areas in Nose Docks 2 & 6)
One (1) bulk POL system	0.00	0.00	0.00	0.370	0.00	0.00	Negligible
One (1) grit blast room	0.011 (9.45)	0.008 (9.45)	0.00	0.00	0.00	0.00	Negligible
One (1) paint area, Nose Dock 2	1.04	1.04	0.00	2.74	0.00	0.00	17.6 (total w/ paint room in bldg. 453 & paint area in Nose Dock 6)

	Limited Potential to Emit (tons/year)						
One (1) paint area, Nose Dock 6	6.64	6.64	0.00	17.9	0.00	0.00	17.6 (total w/ paint room in bldg. 453 & paint area in Nose Dock 6)
Insignificant Activities	10.0	10.0	5.0	10.0	5.0	5.0	5.0
Total Emissions	33.2 (42.7)	34.7 (44.1)	400	62.8	110	150	less than 25

(a) The three (3) boilers (BOI3, BOI4 and BOI5) are limited so that a prior modification was a minor modification to an existing major source.

(b) The VOC emissions from the one (1) spray paint room in building 453 are limited to make the requirements of 326 IAC 8-2-9 not applicable.

(c) The PM emissions from the one (1) grit blast room are limited by the requirements of 326 IAC 6-3-2. The potential PM emissions after control from the grit blast room are less than the allowable emissions based on this rule. Therefore, the potential to emit after controls and the allowable emissions are included in this table. The value in parenthesis is the allowable emissions based on 326 IAC 6-3-2.

(d) The VOC emissions from Nose Dock 2 are limited to make the requirements of 326 IAC 8-2-9 not applicable.

(e) The HAP emissions are limited to make the requirements of 40 CFR 63, Subpart GG not applicable.

All limitations are explained in the Federal Rule Applicability and State Rule Applicability sections of this document.

County Attainment Status

The source is located in Miami County.

Pollutant	Status
PM_{10}	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

Volatile organic compounds (VOC) and oxides of nitrogen (NO_X) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Miami County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

(a) The four (4) boilers identified as BOI1, BOI2, BOI3, BOI4 and BOI5 are not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40, Subpart D, because they were constructed prior to August 17, 1971. The one (1) boiler identified as B592 is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc), because it has a capacity less than 10 million British thermal units per hour. Pursuant to the Amendment to CP 103-2636-00008, issued on May 9, 1995, modifying the boilers to operate on natural gas and fuel oil did not make them subject to the requirements of 40 CFR 60.40c, Subpart Dc, because the only criteria pollutant emissions increased by the fuel conversion were NO_X. Subpart Dc does not address NO_X emissions. Therefore, this project was not a modification as defined by the NSPS and the boilers are not subject to the NSPS Subpart Dc.

(b) This source is not subject to the requirements of 326 IAC 12, 40 CFR 60.500, Subpart XX, because this source is not a bulk gasoline terminal, which is defined by this subpart as a gasoline facility which receives gasoline by pipeline, ship or barge, and has a gasoline through put greater than 75,700 liters per day.

(c) The six (6) horizontal underground JP-8 storage tanks identified as 736-1, 736-2, 726-3, 736-4, 736-5 and 736-6, four (4) vertical above ground JP-8 storage tanks identified as 400, 401, 402, 403 and the one (1) JP-8 tank identified as 406, are not subject to the requirements of 326 IAC 12, 40 CFR 60.110, 60.110a and 60.110b, Subparts K, Ka and Kb, because they were constructed prior to June 11, 1973.

(d) The one (1) no. 2 fuel oil tank, identified as 235, installed in 1976, may be subject to 326 IAC 12, 40 CFR 60.110, Subpart K, because it was constructed after June 11, 1973 and prior to May 19, 1978. This tank is not subject to the requirements of 326 IAC 12, 40 CFR 60.110, Subpart K because it stores no. 2 fuel oil, and pursuant to 40 CFR 60.111(b), petroleum liquid does not include no. 2 through no. 6 fuel oils.

(e) The one (1) gasoline tank, identified as 392, installed in 1978, is not subject to the requirements of 326 IAC 12, 40 CFR 60.110 or 100(a), Subpart K or Ka because it has a capacity less than 40,000 gallons.

(f) The two (2) diesel tanks, identified as 223 and 593b, one (1) JP-8 storage tank, identified as 593A, four (4) no. 2 fuel oil tanks, identified as 593C, 595, 597, and 591A, constructed after July 23, 1984 are not subject to the requirements of 326 IAC 12, 40 CFR 60.110b, Subpart Kb because they each have a capacity less than 40 cubic meters.

(g) The two (2) diesel tanks, identified as 380 and 447, two (2) gasoline storage tanks, identified as 419A and 419B, and one (1) diesel storage tank, identified as 419C, each with a capacity of 10,000 gallons, constructed after July 23, 1984 are not subject to the requirements of 326 IAC 12, 40 CFR 60.110b, Subpart Kb, because they each have a capacity less than 40 cubic meters. The two (2) propane storage tanks also have capacities less than 40 cubic meters, and are not subject to the requirements of 326 IAC 12, 40 CFR 60.110b, Subpart Kb.

(h) The two (2) no. 2 fuel oil tanks, identified as 600 and 592A, installed after July 23, 1984 with capacities more than 40 cubic meters and less than 75 cubic meters are exempt from the general provisions of 40 CFR Part 60 and the provisions of Subpart Kb except as specified in paragraphs (a) and (b) of 40 CFR 60.116b, which require record keeping.

(i) The two (2) horizontal above ground storage tanks, known as 381 and 382, storing propylene glycol, installed in 1991, with capacities more than 75 cubic meters and less than 151 cubic meters and storing a maximum true vapor pressure less than 15 kilopascals are exempt from the general provisions of 40 CFR Part 60 and the provisions of Subpart Kb except as specified in paragraphs (a) and (b) of 40 CFR 60.116b, which require record keeping.

(j) This source is not subject to the requirements of 326 IAC 20, 40 CFR 63.420, Subpart R, because this source is not a bulk gasoline terminal, which is defined by this subpart as a gasoline facility which receives gasoline by pipeline, ship or barge, and has a gasoline throughput greater than 75,700 liters per day.

(k) The requirements of 40 CFR Part 63, Subpart T, National Emission Standards for Halogenated Solvent Cleaning, are not applicable because the cold cleaning degreasing units use only non-halogenated solvents.

(l) The requirements of 40 CFR Part 63, Subpart GG, National Emission Standards for Aerospace Manufacturing and Rework Facilities, is not applicable to this source because the source has agreed to limit hazardous air pollutant emissions to less than 10 tons per year of each individual HAP and less than 25 tons per year of total HAPs. This limitation will make the source a minor source of HAPs and not a major source as defined in 40 CFR 63.2.

(1) The total limited potential to emit of HAPs from all facilities except the one (1) spray paint room in building 453, one (1) paint area at Nose Dock 2, and one (1) paint area at Nose Dock 6, are less than 7.37 tons per year. Therefore, the total HAP usage at the one (1) spray paint room in building 453, one (1) paint area at Nose Dock 2, and one (1) paint area at Nose Dock 6 will be limited to a combined total of 17.6 tons of hazardous air pollutants per year (25 tons/yr - 7.37 tons/yr = 17.63 tons/yr).

(2) The limited potential to emit of each individual HAP at all facilities, except the one (1) spray paint room in building 453, one (1) paint area at Nose Dock 2, and one (1) paint area at Nose Dock 6, are less than 1 ton per year with the exception of Methyl isobutyl ketone (MIBK) and Hexane. Hexane is emitted at a potential rate of 2.25 tons per year at the natural gas-fired boilers and MIBK is emitted at a potential rate of 1.08 tons per year at Nose Dock 1. Therefore, the combined total usage of each individual hazardous air pollutant at the one (1) spray paint room in building 453, one (1) paint area at Nose Dock 2, and one (1) paint area at Nose Dock 6 will be limited to less than 9 tons per year (10 tons/yr - 1 ton/yr = 9 tons/yr). The total usage of MIBK at the one (1) spray paint room in building 453, one (1) paint area at Nose Dock 2, and one (1) paint area at Nose Dock 6 will be limited to less than 8.92 tons per year (10 tons/yr - 1.08 tons/yr = 8.92 tons/yr) and the total usage of Hexane at the one (1) spray paint room in building 453, one (1) paint area at Nose Dock 2, and one (1) paint area at Nose Dock 6 will be limited to less than 7.75 tons per year (10 tons/yr - 2.25 tons/yr = 7.75 tons/yr).

(m) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs), 326 IAC

14 and 326 IAC 20, 40 CFR Part 61 and 40 CFR Part 63, applicable to this source.

State Rule Applicability - Entire Source

326 IAC 1-6-3 (Preventive Maintenance Plan)

(a) The source has submitted a Preventive Maintenance Plan (PMP) on April 23, 1999 for the one (1) grit blast room. Although the one (1) grit blast room is equipped with a control device and allowable emissions pursuant to 326 IAC 6-3 (Process Operations) are less than 10 pounds per hour, a PMP is required because the control device must operate properly in order for the one (1) grit blast room to comply with 326 IAC 6-3. This PMP will be verified to fulfill the requirements of 326 IAC 1-6-3 (Preventive Maintenance Plan).

(b) Preventive Maintenance Plans are required for the five (5) boilers (BOI1, BOI2, BOI3, BOI4 and BOI5) because the boilers do not have control devices and have actual SO_2 emissions in excess of 25 tons per year from each boiler.

(c) Preventive Maintenance Plans are also required for the one (1) spray paint booth, located in building 453, one (1) paint area, located in Nose Dock 2, and one (1) paint area, located in Nose Dock 6.

326 IAC 2-2 (Prevention of Significant Deterioration)

Pursuant to 326 IAC 2-2, this source is a major PSD source.

326 IAC 2-4.1-1 (New Source Toxics Control)

Since all facilities at the source were constructed prior to July 27, 1997, the requirements of 326 IAC 2-4.1-1 are not applicable.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of SO_2 and NO_x. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity)

This source is subject to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-2 (Prevention of Significant Deterioration)

(a) The conversion of Boilers BOI3, BOI4, and BOI5 from coal to natural gas and no. 2 fuel oil was permitted under CP 103-2636-00008, issued on December 18, 1992. Fuel usage was limited to make the change, in combination with other contemporaneous increases, a minor modification to an existing major source.

(1) Pursuant to CP 103-2636-00008, issued on December 18, 1992, the amount of natural gas usage for the boilers (BOI3, BOI4, and BOI5) was limited to 1324.2 million cubic feet per year, based on a twelve month total rolled on a monthly basis. Since the NO_x emission factor for natural gas has been changed from 140 pounds per million cubic feet of natural gas to 100 pounds per million cubic feet of natural gas, the limit must be changed for this permit as follows:

140 lbs/mmcf x 1324.2 mmcf/yr / 2000 lbs/ton = 92.7 tons/yr

100 lbs/mmcf x A mmcf/yr / 2000 lbs/ton = 92.7 tons/yr, where A is the new natural gas usage limit.

A = 1854 mmcf/yr

Since the potential natural gas usage by boilers BOI3, BOI4 and BOI 5 is less than 1620 million cubic feet per year, the natural gas usage limitation is no longer required.

(2) Pursuant to CP 103-2636-00008, issued on December 18, 1992, the amount of no. 2 fuel oil usage for the boilers (BOI3, BOI4, and BOI5) was limited to 4,660,062 gallons per year, based on a twelve month total, rolled on a monthly basis. Since the SO_2 emission factor for no. 2 fuel oil has been changed from (144 x percent sulfur in fuel) pounds per kilogallon of no. 2 fuel oil to (142 x percent sulfur in fuel) pounds per kilogallon of no. 2 fuel oil, and the potential sulfur content has remained 0.5% at this source, the limit must be changed for this permit as follows:

(144 x 0.5) lbs/kgal x 4,660.062 kgal/yr / 2000 lbs/ton = 168 tons/yr

(142 x 0.5) lbs/kgal x B kgal/yr / 2000 lbs/ton = 168 tons/yr, where B is the new no. 2 fuel oil usage limit.

B = 4,732,394 gallons/yr

Since the potential no. 2 fuel oil usage by boilers BOI3, BOI4 and BOI5 is 11,294 kilogallons, the usage of no. 2 fuel oil will be limited to 4,732,394 gallons per consecutive twelve (12) month period, based on a monthly rolling total. For the purpose of this limitation, each million cubic feet of natural gas shall be equivalent to using 8 gallons of no. 2 fuel oil.

(b) The potential to emit VOC from the one (1) paint area at Nose Dock 2 and one (1) paint area at Nose Dock 6 is less than 40 tons per year, and the potential to emit PM and PM_{10}

from those paint areas is less than 25 and 15 tons per year, respectively. Therefore, the two (2) paint areas are a minor modification to an existing major source.

(c) The potential to emit of each criteria pollutant from the one (1) boiler in building B592 is less than the thresholds for a major modification to an existing major source; therefore, this boiler is a minor modification to an existing major source.

326 IAC 6-2-4 (Particulate Emissions Limitations for Facilities Constructed after September 21, 1983)

The four (4) boilers identified as BOI1, BOI2, BOI3, BOI4 and BOI5 were all constructed prior to June 8, 1972. Therefore, the boilers were previously required to comply with the requirements of 326 IAC 6-2-3 (Particulate Emissions Limitations for Facilities Constructed prior to September 21, 1983).

Pursuant to the exempt construction and operation status, issued on June 16, 1989, natural gas burners were added to the two (2) no. 2 fuel oil boilers identified as BOI1 and BOI2. Pursuant to CP103-2636-00008, issued on December 18, 1992, the three (3) boilers identified as BOI3, BOI4, and BOI5 were converted from coal boilers to natural gas and no. 2 fuel oil boilers. Therefore, the five (5) boilers, BOI1, BOI2, BOI3, BOI4 and BOI5, all received approval to operate on the fuels currently used after September 21, 1983.

Pursuant to CP103-2636-00008, issued on December 18, 1992, the boilers are subject to the requirements of 326 IAC 6-2-4 and the particulate matter emissions were limited to 0.28 pound per million British thermal units. Due to recalculation based on known capacities of the boilers, the PM emissions from each of the five (5) boilers are limited to 0.25 pound per million British thermal unit, as computed in the following equation given in 326 IAC 6-2-4. The total heat input capacity of the five (5) boilers is 280.9 million British thermal units per hour when operating on natural gas and 276.5 million British thermal units per hour when operating on no. 2 fuel oil.

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

For natural gas:
$Pt = 1.09/(280.9)^{0.26} = 0.252$ lb/MMBtu heat input

For no.2 fuel oil:
$Pt = 1.09/(276.5)^{0.26} = 0.253$ lb/MMBtu heat input

Based on Appendix A, the potential PM emission rate is:

The potential PM emissions when operating on natural gas from the five (5) boilers limited to 0.252

lb PM per million British thermal units are:

2.38 tons/yr × (2000 lbs/ton / 8760 hrs/yr) = 0.543 lbs/hr
(0.543 lbs/hr / 280.9 MMBtu/hr) = 0.002 lbs PM per MMBtu

The potential PM emissions when operating on no.2 fuel oil from the five (5) boilers limited to 0.253 lb PM per million British thermal units are:

17.7 tons/yr × (2000 lbs/ton / 8760 hrs/yr) = 4.04 lbs/hr

(4.04 lbs/hr / 276.5 MMBtu/hr) = 0.015 lbs PM per MMBtu

Therefore, the five (5) boilers will comply with this rule.

326 IAC 6-2-4 (Particulate Emissions Limitations for Facilities Constructed after September 21, 1983)

The one (1) boiler, known as B592 with a capacity of 5.02 million British thermal units per hour, must have PM emissions of no more than 0.25 pound per million British thermal units in order to comply with the particulate matter emission rate specified by the following equation given in 326 IAC 6-2-4. The total source heat input capacity is 286 million British thermal units per hour when operating on natural gas and 283 million British thermal units per hour when operating on no. 2 fuel oil.

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

For natural gas:
$Pt = 1.09/(286)^{0.26}$ = 0.250 lb/MMBtu heat input

For no.2 fuel oil:
$Pt = 1.09/(283)^{0.26}$ = 0.251 lb/MMBtu heat input

Based on Appendix A, the potential PM emission rate is:

The potential PM emissions when operating on natural gas from the one (1) boiler limited to 0.250 lb PM per million British thermal units are:

0.042 tons/yr × (2000 lbs/ton / 8760 hrs/yr) = 0.010 lbs/hr
(0.010 lbs/hr / 5.02 MMBtu/hr) = 0.002 lbs PM per MMBtu

The potential PM emissions when operating on no.2 fuel oil from the one (1) boiler limited to 0.251 lb PM per million British thermal units are:

0.394 tons/yr × (2000 lbs/ton / 8760 hrs/yr) = 0.090 lbs/hr

(0.090 lbs/hr / 6.29 MMBtu/hr) = 0.014 lbs PM per MMBtu

Therefore, the one (1) boiler will comply with this rule.

326 IAC 6-3-2 (Process Operations)

(a) The particulate matter (PM) from the one (1) spray paint booth located in building 453, the one (1) paint area located in Nose Dock 2, the one (1) paint area located in Nose Dock 6 and the paint operations in Nose Dock 1 shall each be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(b) The particulate matter (PM) from the one (1) grit blast room shall be limited to 2.16 pounds per hour when operating at a grit flow rate of 767 pounds per hour. Since the potential to emit after control by the baghouse is 0.002 tons per year of PM, the one (1) grit blast room will comply with this limit. This limitation was computed using the following equation:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The one (1) baghouse shall be in operation at all times when the one (1) grit blast room is in operation, in order to comply with this limit.

(c) The particulate matter (PM) from the grinding and machining operations, four (4) media blasters, and the brazing, cutting, soldering, and welding shall each be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty

thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The bag filters shall be in operation at all times when the four (4) media blasters are in operation, in order to comply with this limit.

326 IAC 7-1 (Sulfur Dioxide Emission Limitations)

(a) Since the five (5) boilers identified as BOI1, BOI2, BOI3, BOI4 and BOI5 each have the potential to emit more than 25 tons per year of SO_2 when operating on no. 2 fuel oil, the boilers will be subject to the requirements of 326 IAC 7. Sulfur dioxide emissions from each boiler will be limited to five tenths (0.5) pounds per million British thermal units. The potential to emit SO_2 from BOI1and BOI2 is 24.4 pounds per hour each, equivalent to 0.5 pounds per million British thermal units. The potential to emit SO_2 from BOI3 and BOI4 is 25.1 pounds per hour each, equivalent to 0.5 pounds per million British thermal units. The potential to emit SO_2 from BOI5 is 41.3 pounds per hour each, equivalent to 0.5 pounds per million British thermal units. Therefore the five (5) boilers will comply with this rule as long as the sulfur content of the fuel does not exceed 0.5 percent.

(b) Since the potential to emit SO_2 from the one (1) boiler, identified as B592, is less than 25 tons per year of SO_2, the requirements of 326 IAC 7-1 are not applicable to that boiler.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

(a) Pursuant to 326 IAC 8-2-9(b)(2), the requirements of 326 IAC 8-2-9 do not apply to surface coating of the exterior of airplanes. Since the coating operations at Nose Dock 6 only pertain to the exterior of the air craft, Nose Dock 6 is not subject to the requirements of this rule.

(b) Since the one (1) spray paint booth, located in building 453 was constructed in 1989 and potential VOC emissions exceed 25 tons per year, the requirements of 326 IAC 8-2-9 can be applicable. The source has limited VOC emissions from the one (1) spray paint booth in building 453 to less than 25 tons per year and the source has agreed to continue to limit VOC emissions to less than 25 tons per consecutive twelve (12) month period, based on a monthly rolling total. Therefore, the requirements of 326 IAC 8-2-9 are not applicable.

(c) Since the coating operations in Nose Dock 2 began operation in 1996 and potential VOC emissions exceed 15 pounds per day, the requirements of 326 IAC 8-2-9 can be applicable. The VOC emissions from Nose Dock 2 have not exceeded 15 pounds per day in the past and the source has agreed to limit VOC emissions to less than 15 pounds per day. Therefore, the requirements of 326 IAC 8-2-9 are not applicable. This limitation will also result in VOC emissions less than 25 tons per year.

(d) Since the potential VOC emissions from the coating operations in Nose Dock 1, which began operation in 1998, are less than 15 pounds per day and 25 tons per year, the requirements of 326 IAC 8-2-9 are not applicable.

326 IAC 8-1-6 (New Facilities; general reduction requirements)

(a) Since the painting operations in Nose Dock 6 and painting operations in Nose Dock 1 have a potential to emit less than 25 tons per year of VOC, each, the requirements of 326 IAC 8-1-6 are not applicable to those operations.

(b) Since the one (1) bulk POL system has potential VOC emissions less than 25 tons per year, the requirements of 326 IAC 8-1-6 are not applicable to those operations.

(c) The VOC emissions from the one (1) spray paint booth located in building 453 will be limited to less than 25 tons per year to avoid the requirements of 326 IAC 8-2-9 and the VOC emissions from the one (1) painting area in Nose Dock 2 will be limited to less than 15 pounds per day which results in is less than 25 tons per year to avoid the requirements of 326 IAC 8-2-9. Therefore, the requirements of 326 IAC 8-1-6 are also not applicable to those operations.

(d) Since the potential VOC emissions from each boiler are less than 25 tons per year, the requirements of 326 IAC 8-1-6 are not applicable.

(e) Since the potential VOC emissions from each insignificant tank are less than 25 tons per year, the requirements of 326 IAC 8-1-6 are not applicable.

326 IAC 8-3-2 (Organic Solvent Degreasing Operations)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator of the cold cleaner operations constructed after January 1, 1980 and prior to January 1, 1990 shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a matter that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5 (Organic Solvent Degreasing Operations)

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of cold cleaner degreaser facilities constructed after January 1, 1990 shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) milli-

meters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38^{E}C) (one hundred degrees Fahrenheit (100^{E}F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{E}C) (one hundred degrees Fahrenheit (100^{E}F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{E}C) (one hundred degrees Fahrenheit (100^{E}F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{E}C) (one hundred twenty degrees Fahrenheit (120^{E}F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

326 IAC 9-1 (Carbon monoxide emission limits)

Since there is no petroleum refining, ferrous metal smelters and refuse incineration and burning equipment, the requirements of 326 IAC 9-1 do not apply.

326 IAC 10-1 (Nitrogen Oxides Control in Clark and Floyd Counties)

The requirements of 326 IAC 10-1 do not apply to this source, because the source is not located in Clark County or Floyd County.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

(a) The five (5) boilers (BOI1, BOI2, BOI3, BOI4 and BOI5) have applicable compliance monitoring conditions as specified below:

Daily visible emission notations of the boiler stacks exhaust shall be performed during normal daylight operations when exhausting to the atmosphere and operating on no. 2 fuel oil. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

These monitoring conditions are necessary to ensure compliance with 326 IAC 7-1 (SO_2 Emissions Limitations) and 326 IAC 2-7 (Part 70).

(b) The one (1) spray paint booth, located in building 453, one (1) paint area, located in Nose Dock 2, and one (1) paint area, located in Nose Dock 6, have applicable compliance

monitoring conditions as specified below:

(1) Weekly observations shall be made of the overspray from the surface coating stacks or emission points while the areas are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(2) Monthly inspections shall be performed of the coating emissions from the stacks or emission points and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(3) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

These monitoring conditions are necessary to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

(c) There are no mandatory compliance monitoring requirements for the one (1) grit blast room, located in building 426, because the grit blast room is controlled by a baghouse and allowable emissions are 2.16 pounds per hour, which is less than 10 pounds per hour. A Preventive Maintenance Plan is required because the potential to emit before controls exceeds the allowable emissions.

(d) There are no mandatory compliance monitoring requirements for the one (1) boiler, fired by natural gas and no. 2 fuel oil, identified as B592, because there is no control device and the potential to emit each criteria pollutant is less than 25 tons per year.

(e) There are no mandatory compliance monitoring requirements for the painting operations in Nose Dock 1, because there is no control device and this insignificant activity has a potential to emit VOC less than 25 tons per year.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

(a) This source will emit levels of air toxics less than those that constitute major source applicability according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See pages 3, 6 and 8 of 10 of attached calculations for detailed air toxic calculations.

Conclusion

The operation of this military base shall be subject to the conditions of the attached proposed Part 70 Permit No. T 103-7426-00008.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: Grissom Air Reserve Base
Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971
Part 70: T 103-7426
Plt ID: 103-00008
Reviewer: CarrieAnn Ortolani
Date: December 10, 1996

BOI1

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
48.0	420.5

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.399	1.60	0.126	21.0	1.16	17.7

BOI2

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
48.0	420.5

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.399	1.60	0.126	21.0	1.16	17.7

BOI3

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
50.7	444.1

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.422	1.69	0.133	22.2	1.22	18.7

BOI4

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
50.7	444.1

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.422	1.69	0.133	22.2	1.22	18.7

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: Grissom Air Reserve Base
Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971
Part 70: T 103-7426
Plt ID: 103-00008
Reviewer: CarrieAnn Ortolani
Date: December 10, 1996

BOI5

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
83.5	731.5

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.695	2.78	0.219	36.6	2.01	30.7

B592

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
5.02	44.0

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	50.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.042	0.167	0.013	1.10	0.121	1.85

Total Emissions

	Pollutant					
	PM	PM-10	SO2	NOx	VOC	CO
Potential Emissions (tons/yr):	2.38	9.52	0.751	124	6.89	105

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factor is filterable PM only. PM-10 emission factor is condensable and filterable PM-10 combined.
Note: Check the applicable rules and test methods for PM and PM-10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/ not included).
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 3 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name: Grissom Air Reserve Base
Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971
Part 70: T 103-7426
Plt ID: 103-00008
Reviewer: CarrieAnn Ortolani
Date: December 10, 1996

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.003	0.002	0.094	2.25	0.004

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.001	0.001	0.002	0.0005	0.003

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil

Company Name: Grissom Air Reserve Base
Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971
Part 70: T 103-7426
Plt ID: 103-00008
Reviewer: CarrieAnn Ortolani
Date: December 10, 1996

BOI1

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
48.0	3003	0.5

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	71 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	3.00	107	30.0	0.511	7.51

BOI2

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
48.0	3003	0.5

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	71 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	3.00	107	30.0	0.511	7.51

BOI3

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
49.5	3097	0.5

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	71 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	3.10	110	31.0	0.527	7.74

BOI4

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
49.5	3097	0.5

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	71 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	3.10	110	31.0	0.527	7.74

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil

Company Name: Grissom Air Reserve Base
Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971
Part 70: T 103-7426
Plt ID: 103-00008
Reviewer: CarrieAnn Ortolani
Date: December 10, 1996

BOI5

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
81.5	5100	0.5

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	71 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	5.10	181	51.0	0.867	12.7

B592

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
6.29	394	0.5

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	71 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	0.394	14.0	3.94	0.067	0.984

Total Emissions:

	Pollutant				
	PM	SO2	NOx	VOC	CO
Potential Emissions (tons/yr):	17.7	628	177	3.01	44.2
Limited Emissions (tons/yr):	11.1	395	111	1.89	27.8
Usage rate for boilers BOI3-BOI5 of 4,732,394 gallons/yr					

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)
*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM-10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/ not included).
See page 6 for HAPs emission calculations.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil
HAPs Emissions

Company Name: Grissom Air Reserve Base
Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971
Part 70: T 103-7426
Plt ID: 103-00008
Reviewer: CarrieAnn Ortolani
Date: December 10, 1996

HAPs - Metals

	Arsenic	Beryllium	Cadmium	Chromium	Lead
Emission Factor in lb/mmBtu	4.0E-06	3.0E-06	3.0E-06	3.0E-06	9.0E-06
Potential Emission in tons/yr	0.005	0.001	0.001	0.001	0.002

HAPs - Metals (continued)

	Mercury	Manganese	Nickel	Selenium
Emission Factor in lb/mmBtu	3.0E-06	6.0E-06	3.0E-06	1.5E-05
Potential Emission in tons/yr	0.004	0.007	0.004	0.019

Methodology

No data was available in AP-42 for organic HAPs.
Potential Emissions (tons/year) = Throughput (mmBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton

Appendix A: Federal Potential Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Grissom Air Force Base
Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971
Part 70: T 103-7426
Plt ID: 103-00008
Reviewer: CarrieAnn Ortolani
Date: December 10, 1996

Material	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/hr)	Flash-off (fraction)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential tons per year	lb VOC /gal solids	Transfer Efficiency
Building 453																
Coating																
Polyurethane Coating C	9.94	39.00%	0.0%	39.0%	0.0%	44.30%	2.00000	1.000	3.88	3.88	7.75	186.08	33.96	13.28	8.75	75%
Epoxy Primer Coating Kit A	11.2	26.89%	0.0%	26.9%	0.0%	54.90%	2.00000	1.000	3.01	3.01	6.02	144.58	26.39	**17.93**	5.49	75%
Epoxy Primer Coating Kit B	7.71	29.00%	0.0%	29.0%	0.0%	67.90%	2.00000	1.000	2.24	2.24	4.47	107.32	19.59	11.99	3.29	75%
Polyurethane Coating I	8.64	30.34%	0.0%	30.3%	0.0%	65.30%	2.00000	1.000	2.62	2.62	5.24	125.78	22.96	13.18	4.01	75%
Polyurethane Coating J	7.78	52.59%	0.0%	52.6%	0.0%	41.20%	2.00000	1.000	4.09	4.09	**8.18**	**196.29**	**35.82**	8.07	9.93	75%
Enamel Yellow C	8.85	34.92%	0.0%	34.9%	0.0%	57.81%	2.00000	1.000	3.09	3.09	6.18	148.32	27.07	12.61	5.35	75%
Thinner																
Thinner, Dope & Lacquer A	6.67	100.00%	0.0%	100.0%	0.0%	0.00%	2.00000	1.000	6.67	6.67	13.34	320.26	58.45	**0.00**	n/a	75%
Thinner, Aliphathic Polyurethane A	7.43	100.00%	0.0%	100.0%	0.0%	0.00%	2.00000	1.000	7.43	7.43	**14.86**	**356.69**	**65.10**	0.00	n/a	75%
Nose Dock 1 - Insignificant																
Polyurethane Coating, Black C	10.0	37.84%	0.0%	37.8%	0.0%	47.70%	0.12500	1.000	3.79	3.79	0.47	11.37	2.07	**0.00**	7.94	100%
Polyurethane Coating, Black D	7.91	29.75%	0.0%	29.8%	0.0%	73.50%	0.12500	1.000	2.35	2.35	0.29	7.06	1.29	0.00	3.20	100%
Polyurethane Coating, Lgt. Gray A	12.1	18.77%	0.0%	18.8%	0.0%	68.90%	0.12500	1.000	2.27	2.27	0.28	6.81	1.24	0.00	3.29	100%
Polyurethane Coating, Lgt. Gray B	7.84	60.00%	0.0%	60.0%	0.0%	32.90%	0.12500	1.000	4.70	4.70	**0.59**	**14.11**	**2.58**	0.00	14.30	100%
Primer Coating C	11.2	26.87%	0.0%	26.9%	0.0%	54.90%	0.12500	1.000	3.01	3.01	0.38	9.04	1.65	0.00	5.49	100%
Primer Coating D	7.76	28.83%	0.0%	28.8%	0.0%	67.60%	0.12500	1.000	2.24	2.24	0.28	6.71	1.22	0.00	3.31	100%
Turcoat Liquid Accelagold B	8.34	98.00%	1.0%	97.0%	1.0%	2.00%	0.00781	1.000	8.17	8.09	0.06	1.52	0.28	0.00	404.49	100%
Thinner, Aliphathic Polyurethane A	7.43	100.00%	0.0%	100.0%	0.0%	0.00%	0.00781	1.000	7.43	7.43	0.06	1.39	0.25	0.00	n/a	100%
Nose Dock 2																
Coating																
Polyurethane Coating C	9.94	39.00%	0.0%	39.0%	0.0%	44.30%	1.00000	1.000	3.88	3.88	3.88	93.04	16.98	6.64	8.75	75%
Epoxy Primer Coating Kit A	11.2	26.89%	0.0%	26.9%	0.0%	54.90%	1.00000	1.000	3.01	3.01	3.01	72.29	13.19	**8.97**	5.49	75%
Epoxy Primer Coating Kit B	7.71	29.00%	0.0%	29.0%	0.0%	67.90%	1.00000	1.000	2.24	2.24	2.24	53.66	9.79	5.99	3.29	75%
Polyurethane Coating I	8.64	30.34%	0.0%	30.3%	0.0%	65.30%	1.00000	1.000	2.62	2.62	2.62	62.89	11.48	6.59	4.01	75%
Polyurethane Coating J	7.78	52.59%	0.0%	52.6%	0.0%	41.20%	1.00000	1.000	4.09	4.09	**4.09**	**98.14**	**17.91**	4.04	9.93	75%
Enamel Yellow C	8.85	34.92%	0.0%	34.9%	0.0%	57.81%	1.00000	1.000	3.09	3.09	3.09	74.16	13.53	6.31	5.35	75%
Thinner																
Thinner, Dope & Lacquer A	6.67	100.00%	0.0%	100.0%	0.0%	0.00%	0.25000	1.000	6.67	6.67	1.67	40.03	7.31	**0.00**	n/a	75%
Thinner, Aliphathic Polyurethane A	7.43	100.00%	0.0%	100.0%	0.0%	0.00%	0.25000	1.000	7.43	7.43	**1.86**	**44.59**	**8.14**	0.00	n/a	75%
Nose Dock 6																
Coating																
Polyurethane Coating C	9.94	39.00%	0.0%	39.0%	0.0%	44.30%	1.00000	1.000	3.88	3.88	3.88	93.04	16.98	**6.64**	8.75	75%
Epoxy Primer Coating Kit A	11.2	26.89%	0.0%	26.9%	0.0%	54.90%	0.25000	1.000	3.01	3.01	0.75	18.07	3.30	2.24	5.49	75%
Epoxy Primer Coating Kit B	7.71	29.00%	0.0%	29.0%	0.0%	67.90%	0.25000	1.000	2.24	2.24	0.56	13.42	2.45	1.50	3.29	75%
Polyurethane Coating I	8.64	30.34%	0.0%	30.3%	0.0%	65.30%	1.00000	1.000	2.62	2.62	2.62	62.89	11.48	6.59	4.01	75%
Polyurethane Coating J	7.78	52.59%	0.0%	52.6%	0.0%	41.20%	1.00000	1.000	4.09	4.09	**4.09**	**98.14**	**17.91**	4.04	9.93	75%
Enamel Yellow C	8.85	34.92%	0.0%	34.9%	0.0%	57.81%	1.00000	1.000	3.09	3.09	3.09	74.16	13.53	6.31	5.35	75%
State Potential Emissions											**33.7**	**809**	**148**	**33.5**		

Add worst case coating to all solvents

Annual Potential Emissions from Nose Docks 1, 2 and 6 are overestimates because the painting operations in these areas can not operate at full capacity 8,760 hours per year due to space limitations and a primer coating usage constraint in Nose Dock 2.

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * Flash-off
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day) * Flash-off
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs) * Flash-off
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids) * Flash-off
Total = Worst Coating + Sum of all solvents used

HAP Emission Calculations

Company Name: Grissom Air Force Base
Plant Location: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971
County: Miami
Part 70: T 103-7426
Plt ID: 103-00008
Permit Reviewer: CarrieAnn Ortolani
Date: December 10, 1996

Material	Density (lb/gal)	Gal of Mat (gal/hr)	Weight % Xylene	Weight % Toluene	Weight % MIBK	Weight % Benzene	Weight % MEK	Weight % Glycol Ethers	Weight % Ethyl Benzene	Weight % Hexane	Weight % Chromium	Xylene Emissions (tons/yr)	Toluene Emissions (tons/yr)	MIBK Emissions (tons/yr)	Benzene Emissions (tons/yr)	MEK Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Ethyl Benzene Emissions (tons/yr)	Hexane Emissions (tons/yr)	Chromium Emissions (tons/yr)	Total Emissions (tons/yr)
Building 453																					
Polyurethane Coating C	9.94	2.00000	1.00%	1.00%	20.00%	0.00%	10.00%	0.00%	1.00%	0.00%	0.00%	0.87	**0.87**	**17.41**	0.00	**8.71**	0.00	0.87	0.00	0.00	**28.73**
Epoxy Primer Coating Kit A	11.2	2.00000	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.00%	0.98	0.00	0.00	0.00	0.00	0.00	**0.98**	0.00	0.00	1.96
Epoxy Primer Coating Kit B	7.71	2.00000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Polyurethane Coating I	8.64	2.00000	1.00%	1.00%	0.00%	0.00%	0.00%	5.00%	0.10%	0.00%	0.00%	0.76	0.76	0.00	0.00	0.00	**3.78**	0.08	0.00	0.00	5.37
Polyurethane Coating J	7.78	2.00000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enamel Yellow C	8.85	2.00000	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**1.55**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.55
Thinner																					
Thinner, Dope & Lacquer A	6.67	2.00000	0.00%	15.00%	0.00%	0.00%	10.00%	0.00%	0.00%	1.00%	0.00%	0.00	**8.77**	0.00	0.00	5.84	0.00	0.00	0.58	0.00	15.20
hinner, Aliphathic Polyurethane A	7.43	2.00000	6.00%	12.00%	0.00%	0.00%	30.00%	40.00%	2.00%	0.00%	0.00%	**3.91**	7.81	0.00	0.00	**19.53**	**26.04**	**1.30**	0.00	0.00	**58.59**
Nose Dock 1																					
Polyurethane Coating, Black C	10.0	0.12500	0.05%	0.64%	19.71%	0.00%	4.22%	0.00%	0.02%	0.00%	0.00%	0.00	0.04	**1.08**	0.00	0.23	0.00	0.00	0.00	0.00	**1.35**
Polyurethane Coating, Black D	7.91	0.12500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
olyurethane Coating, Lgt. Gray A	12.1	0.12500	1.00%	1.00%	0.00%	0.00%	5.00%	0.00%	0.10%	0.00%	0.00%	**0.07**	**0.07**	0.00	0.00	**0.33**	0.00	**0.01**	0.00	0.00	0.47
olyurethane Coating, Lgt. Gray B	7.84	0.12500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Primer Coating C	11.2	0.12500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Primer Coating D	7.76	0.12500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Turcoat Liquid Accelagold B	8.34	0.00781	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**	0.01
hinner, Aliphathic Polyurethane A	7.43	0.00781	6.00%	12.00%	0.00%	30.00%	0.00%	40.00%	2.00%	0.00%	0.00%	0.02	0.03	0.00	**0.08**	0.00	**0.10**	0.01	0.00	0.00	0.23
Nose Dock 2																					
Coating																					
Polyurethane Coating C	9.94	1.00000	1.00%	1.00%	20.00%	0.00%	10.00%	0.00%	1.00%	0.00%	0.00%	0.44	**0.44**	**8.71**	0.00	**4.35**	0.00	0.44	0.00	0.00	**14.37**
Epoxy Primer Coating Kit A	11.2	1.00000	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.00%	0.49	0.00	0.00	0.00	0.00	0.00	**0.49**	0.00	0.00	0.98
Epoxy Primer Coating Kit B	7.71	1.00000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Polyurethane Coating I	8.64	1.00000	1.00%	1.00%	0.00%	0.00%	0.00%	5.00%	0.10%	0.00%	0.00%	0.38	0.38	0.00	0.00	0.00	**1.89**	0.04	0.00	0.00	2.69
Polyurethane Coating J	7.78	1.00000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enamel Yellow C	8.85	1.00000	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.78**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78
Thinner																					
Thinner, Dope & Lacquer A	6.67	0.25000	0.00%	15.00%	0.00%	0.00%	10.00%	0.00%	0.00%	1.00%	0.00%	0.00	**1.10**	0.00	0.00	0.73	0.00	0.00	**0.07**	0.00	1.90
hinner, Aliphathic Polyurethane A	7.43	0.25000	6.00%	12.00%	0.00%	0.00%	30.00%	40.00%	2.00%	0.00%	0.00%	**0.49**	0.98	0.00	0.00	**2.44**	**3.25**	**0.16**	0.00	0.00	**7.32**
Nose Dock 6																					
Coating																					
Polyurethane Coating C	9.94	1.00000	1.00%	1.00%	20.00%	0.00%	10.00%	0.00%	1.00%	0.00%	0.00%	0.44	**0.44**	**8.71**	0.00	**4.35**	0.00	**0.44**	0.00	0.00	**14.37**
Epoxy Primer Coating Kit A	11.2	0.25000	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.00%	0.12	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.25
Epoxy Primer Coating Kit B	7.71	0.25000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Polyurethane Coating I	8.64	1.00000	1.00%	1.00%	0.00%	0.00%	0.00%	5.00%	0.10%	0.00%	0.00%	0.38	0.38	0.00	0.00	0.00	**1.89**	0.04	0.00	0.00	2.69
Polyurethane Coating J	7.78	1.00000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enamel Yellow C	8.85	1.00000	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.78**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78
										SUBTOTALS:	**(tons/yr):**	**7.58**	**11.7**	**35.9**	**0.076**	**39.7**	**37.0**	**3.38**	**0.658**	**0.014**	**125**
											(lb/hr):	**1.73**	**2.67**	**8.20**	**0.017**	**9.07**	**8.44**	**0.772**	**0.150**	**0.003**	**28.5**
											(g/sec):	**0.218**	**0.337**	**1.03**	**0.002**	**1.14**	**1.06**	**0.097**	**0.019**	**0.000**	**3.59**

Tank Emission Calculations
Bulk POL System

Company Name: Grissom Air Reserve Base
Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971
Part 70: T 103-7426
Plt ID: 103-00008
Reviewer: CarrieAnn Ortolani
Date: December 10, 1996

External Floating Roof Storage Tanks

Lr
Rim Seal Loss

		Kra	Krb	v	n	D	Pva				Lr
Tank ID	Product Stored	zero wind speed rim seal loss (lb-mole/ft-yr)	w.s. dependent rim seal loss (lb-mole/ft-yr)	Avg. wind speed (mph)	wind speed exponent	tank diameter (feet)	Avg. Pressure	Pressure Factor (P*)	Vapor Mol. Weight (Mv) (lb/lb-mole)	Product Factor (Kc)	Rim Seam Loss (lbs/yr)
400	JP-8	5.8	0.3	10	2.1	47.5	0.011	0.00019	130	1	50.3
401	JP-8	5.8	0.3	10	2.1	47.5	0.011	0.00019	130	1	50.3
402	JP-8	5.8	0.3	10	2.1	47.5	0.011	0.00019	130	1	50.3
403	JP-8	5.8	0.3	10	2.1	47.5	0.011	0.00019	130	1	50.3
406	JP-8	5.8	0.3	10	2.1	84.5	0.011	0.00019	130	1	89.6

Lwd, Withdrawal Loss

		Q	C	Wl	D	Nc	Fc	Lwd
Tank ID	Product Stored	Annual Throughput (bbl/yr)	Shell Clingage Factor (bbl/1000cub.ft.	Avg. liq. density (lb/gal)	tank diameter (feet)	No. fixed roof columns	Column diameter (feet)	Withdrawal Loss (lbs/yr)
400	JP-8	120.2	0.6	7	47.5	0	0	10.0
401	JP-8	120.2	0.6	7	47.5	0	0	10.0
402	JP-8	120.2	0.6	7	47.5	0	0	10.0
403	JP-8	120.2	0.6	7	47.5	0	0	10.0
406	JP-8	120.2	0.6	7	84.5	0	0	5.63

Lf
Deck Fitting Loss

		Ff	Pva				Lf
Tank ID	Product Stored	Total Deck Fitting Loss factor (lb-mole/yr)	Avg. Pressure	Pressure Factor (P*)	Vapor Mol. Weight (Mv) (lb/lb-mole)	Product Factor (Kc)	Deck Fitting Loss (lbs/yr)
400	JP-8	0.497	0.011	0.00019	130	1	0.012
401	JP-8	0.497	0.011	0.00019	130	1	0.012
402	JP-8	0.497	0.011	0.00019	130	1	0.012
403	JP-8	0.497	0.011	0.00019	130	1	0.012
406	JP-8	0.497	0.011	0.00019	130	1	0.012

Ld
Deck Seam Loss

		Kd	Sd	D	Pva				Ld
Tank ID	Product Stored	Deck seam loss per unit seam length factor (lb-mole/ft-yr)	Deck seam length factor (ft/sq.ft.)	tank diameter (feet)	Avg. Pressure	Pressure Factor (P*)	Vapor Mol. Weight (Mv) (lb/lb-mole)	Product Factor (Kc)	Deck Seam Loss (lbs/yr)
400	JP-8	0.14	0.2	47.5	0.011	0.00019	130	1	1.54
401	JP-8	0.14	0.2	47.5	0.011	0.00019	130	1	1.54
402	JP-8	0.14	0.2	47.5	0.011	0.00019	130	1	1.54
403	JP-8	0.14	0.2	47.5	0.011	0.00019	130	1	1.54
406	JP-8	0.14	0.2	84.5	0.011	0.00019	130	1	4.86

		Lr	Lwd	Lf	Ld	Lt	Lt
Tank ID	Product Stored	Rim Seam Loss (lbs/yr)	Withdrawal Loss (lbs/yr)	Deck Fitting Loss (lbs/yr)	Deck Seam Loss (lbs/yr)	Total Loss (lbs/yr)	Total Loss (tons/yr)
400	JP-8	50.3	10.0	0.012	1.54	61.9	0.031
401	JP-8	50.3	10.0	0.012	1.54	61.9	0.031
402	JP-8	50.3	10.0	0.012	1.54	61.9	0.031
403	JP-8	50.3	10.0	0.012	1.54	61.9	0.031
406	JP-8	89.6	5.63	0.012	4.86	100	0.050
				Total VOC emissions:		**348**	**0.174**

Fixed Roof Storage Tanks

Tank ID	Product Stored	Vapor Space Volume (Vv) (cf)	Vapor Density (Wv) (lb/cf)	Vapor Space Expansion Factor (Ke)	Vented Vapor Saturation Factor (Ks)	Standing Loss (Ls) (lbs/yr)
381	pylene glycol/wa	2147	0.00002	0.067	0.999	1.20
382	pylene glycol/wa	2147	0.00002	0.067	0.999	1.20

Tank ID	Product Stored	Vapor Density (Mv) (lb/lb-mol)	Average Vapor Pressure (Pva) (psia)	Annual Throughput (Q) (bbl/yr)	Turnover Factor (Kn)	Working Loss Product Factor (Kp)	Working Loss (Lw) (lbs/yr)
381	pylene glycol/wa	76.1	0.0016	317.5	1	1	0.037
382	pylene glycol/wa	76.1	0.0016	317.5	1	1	0.037
736-1	JP-8	130	0.01	57767	0.785	1	64.9
736-2	JP-8	130	0.01	57767	0.785	1	64.9
736-3	JP-8	130	0.01	57767	0.785	1	64.9
736-4	JP-8	130	0.01	57767	0.785	1	64.9
736-5	JP-8	130	0.01	57767	0.785	1	64.9
736-6	JP-8	130	0.01	57767	0.785	1	64.9

Tank ID	Product Stored	Standing Loss (Ls) (lbs/yr)	Working Loss (Lw) (lbs/yr)	Total Loss (Lt) (lbs/yr)	Total Loss (Lt) (tons/yr)
381	pylene glycol/wa	1.20	0.037	1.24	0.0006
382	pylene glycol/wa	1.20	0.037	1.24	0.0006
736-1	JP-8	0.00	64.9	64.9	0.032
736-2	JP-8	0.00	64.9	64.9	0.032
736-3	JP-8	0.00	64.9	64.9	0.032
736-4	JP-8	0.00	64.9	64.9	0.032
736-5	JP-8	0.00	64.9	64.9	0.032
736-6	JP-8	0.00	64.9	64.9	0.032
		Total VOC emissions:		**392**	**0.196**

Methodology
Emissions calculated based on AP-42, Chapter 7
External Floating Roof Tanks
Lr = (Kra + Krb x v^n) x D x P* x Mv x Kc
Lwd = [(0.943 x Q x C x Wl)/D] x [1+(Nc x Fc/D)]
Lf = Ff x P* x Mv x Kc
Ld = Kd x Sd x D^2 x P* x Mv x Kc
Lt = Lr + Lwd + Lf + Ld
Fixed Roof Tanks
Ls = 365 x Vv x Wv x Ke x Ks
Lw = 0.0010 x Mv x Pva x Q x Kn x Kp
Lt = Ls + Lw
All variables were calculated based on AP-42 and the data supplied by the applicant

Appendix A: Emission Calculations
Abrasive Blasting - Confined

Company Name: Grissom Air Reserve Base
Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971
Part 70: T 103-7426
Plt ID: 103-00008
Reviewer: CarrieAnn Ortolani
Date: December 10, 1996

Table 1 - Emission Factors for Abrasives

	Emission Factor	
Abrasive	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

	Nozzle Pressure (psig)							
Internal diameter, in	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)

FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =	1265
D = Density of abrasive (lb/ft3) From Table 2 =	60
D1 = Density of sand (lb/ft3) =	99
ID = Actual nozzle internal diameter (in) =	0.5
ID1 = Nozzle internal diameter (in) from Table 3 =	0.5

Flow Rate (FR) (lb/hr) = **766.667** per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =	0.010
FR = Flow Rate (lb/hr) =	767
w = fraction of time of wet blasting =	0 %
N = number of nozzles =	2

	PM	PM-10
Uncontrolled Emissions =	**15.3 lbs/hr**	**10.7 lbs/hr**
	67.2 tons/yr	**47.0 tons/yr**
Control Efficiency=	**99.984%**	
Controlled Emissions =	**0.002 lb/hr**	
	0.011 ton/yr	

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)
Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs
Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)
E = EF x FR x (1-w/200) x N
w should be entered in as a whole number (if w is 50%, enter 50)